

REMARKS

Summary of Telephonic Interviews, and Response

The Applicants gratefully acknowledge the telephone interviews courteously granted by Examiner Nguyen to William Zahrt (Reg. No. 26,070) on March 29, 2006. During those interviews the 35 U.S.C. §102 claim rejections in the present application were discussed.

In particular, the Examiner had stated in the Office Action dated February 21, 2006 that:

“Applicant contends that Hawthorne et al. does not teach or suggest a cross-sectional profile that is substantially constant in at least one horizontal direction. In response to applicant that since chip (44) has fixed dimension, hence heat spreader forms over the chip that has a fixed dimension must have constant dimension in the horizontal direction (see figures 3-4).”

In response, it was pointed out that Hawthorne’s heat spreader, as shown in Hawthorne’s FIG. 3, is the entire single piece at the top of FIG. 3, including both the central die receiving section 68 and the surrounding lateral sections 70, as explained by Hawthorne in Column 5, lines 29–31:

“The heat spreader is either molded or stamped in the configuration shown, having a somewhat raised central die receiving section 68 surrounded by lateral sections 70...”

It was pointed out that the cross-sectional profile of Hawthorne’s heat spreader therefore changes as one progresses across it from one edge to an opposite edge: the cross-sectional profile taken through a flat lateral section 70 being distinctly different from the cross-sectional profile taken centrally through and including the die receiving section 68. The first such cross-sectional profile is entirely flat; the second profile has a distinctive hump in the middle due to the die receiving section 68.

Thus, it was pointed out that the cross-sectional profile of Hawthorne is not constant when cross-sectional profiles are taken progressively in a horizontal direction

progressing from one edge of Hawthorne's heat spreader to the opposite edge. Rather, such cross-sectional profiles change from flat to humped to flat.

After considering this distinction, the Examiner agreed that Hawthorne's cross-sectional profile was not constant as just explained. However, the Examiner was of the opinion that the language of the claims did not clearly distinguish from a situation in which the cross-sectional profile was taken horizontally along just an edge of Hawthorne's heat spreader, the horizontal direction being, for example, in the same direction as the cross section itself.

In this regard, the meaning of the constant horizontal cross-sectional profile according to the present invention is explicitly defined in the application specification and drawings, attention being drawn, for example, to the arrow 202 described on page 6, lines 18-20, and shown in FIGs. 2, 12, and 13.

Nevertheless, in the interest of resolving the Examiner's reservations and moving the present application forward to allowance, the above amendments to the claims were discussed, support therefor being found in the application as just indicated. It was agreed that these amendments make the distinction over Hawthorne clearer, and that with this clarification the objections to the claims were likely overcome. While on the whole in agreement, the Examiner indicated that a final determination concerning allowability over Hawthorne would be reserved until submission of the present response.

Accordingly, and for the reasons presented, it is believed that the claims as now amended clearly and patentably distinguish over Hawthorne. Reconsideration and allowance thereof are accordingly respectfully requested.

Conclusion

In view of the above, it is submitted that the claims are in condition for allowance and reconsideration of the rejections is respectfully requested. Allowance of claims 1-10 and 21-30 at an early date is solicited.

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To the extent necessary, a petition for an extension of time under 37 C.F.R. 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this paper, including any extension of time fees, to Deposit Account No. 50-0374 and please credit any excess fees to such deposit account.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "Mikio Ishimaru". The script is cursive and fluid.

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